OMRON

OMRON Corporation
Electronic and Mechanical
Components Company

Image Sensing Component
HVC-P
Evaluation Software
Driver Installation

Manual

TABLE OF CONTENTS

■ **Revision History**

Date	Rev	Contents	Prepared by
2014/01/30	A	First release	Kinoshita
2015/04/07	B	Correction of errors	Iguchi

Additional Notes
You may not reproduce the contents of this document without proper written authorization from OMRON Corporation.
You may not copy the contents of this document except for the purpose of evaluating HVC-P sample.
The contents of this document may change without notice.

This document provides details on how to use HVC-P and the Evaluation Software (hereafter referred to as "the Application").

1 Preparations

●Items to Prepare
・A PC with high-speed Internet connection (running Windows 7).
・As administrator privileges are required for the installation, we recommend using a PC with an administrator account login.
・USB 2.0 cable (A male to B male) (not included).

●Installation Procedure
・Follow the instructions described in **2 Install COM Drivers**.
・Use the **Installation Check Sheet** provided at the end of the installation manual. Please refer to it when contacting the HVC Customer Service with issues regarding the installation.

●Operating Environment
The Application was tested in the following environment.
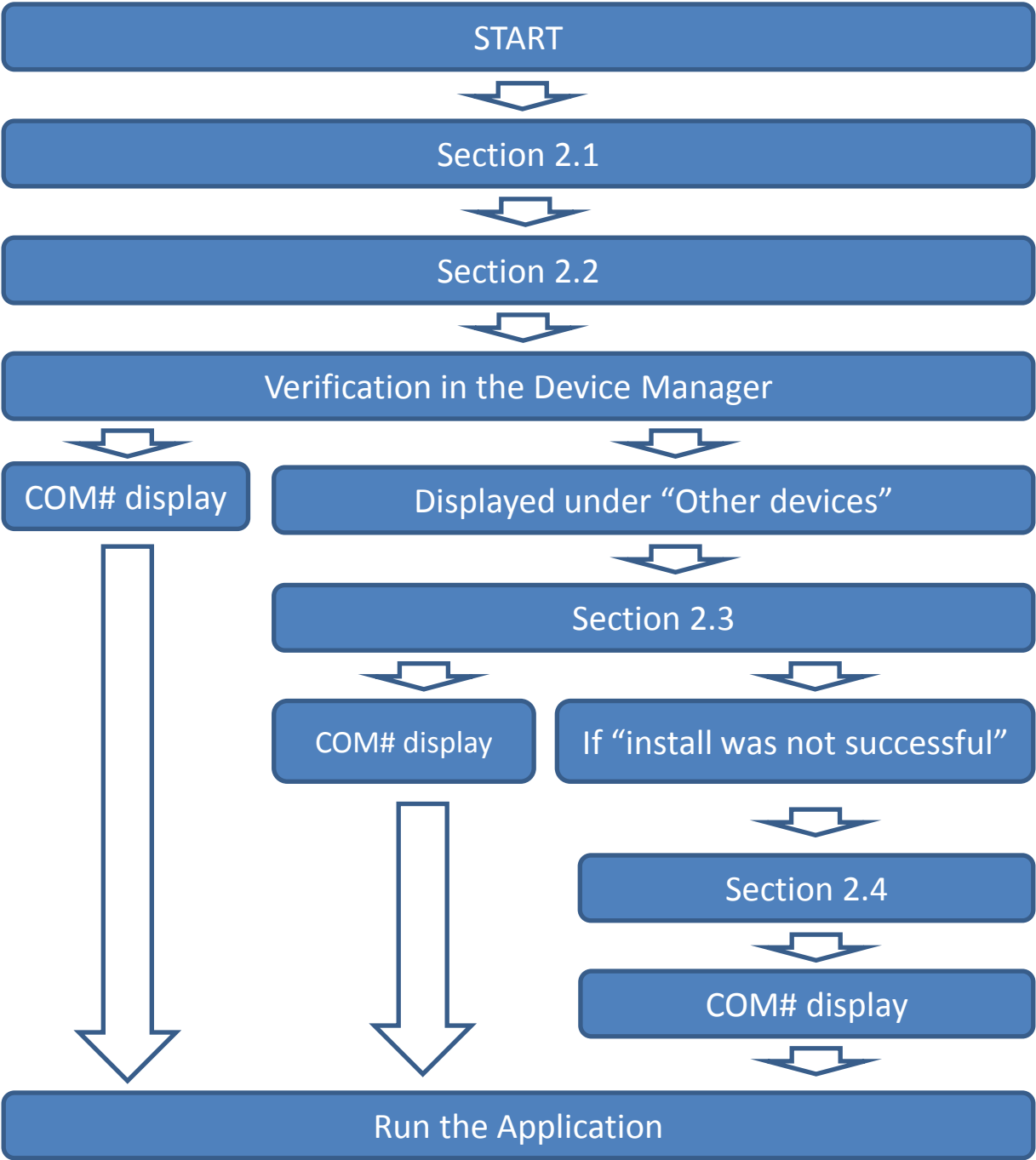・OS   Windows 7 Professional SP1 64bit / 32bit
・CPU   Intel® Core™ i7-3770 CPU @ 3.40GHz

Please note that errors might occur due to the specs of the PC used. Please refer to **4 Troubleshooting** for details.

2 Install COM Drivers

Please follow sections 2.1 and 2.2 for installing the drivers.
Please refer to sections 2.3 and 2.4 should errors occur.

START

↓

Section 2.1

↓

Section 2.2

↓

Verification in the Device Manager

↓ ↓

COM# display	Displayed under "Other devices"

↓

Section 2.3

↓ ↓

COM# display	If "install was not successful"

↓

Section 2.4

↓
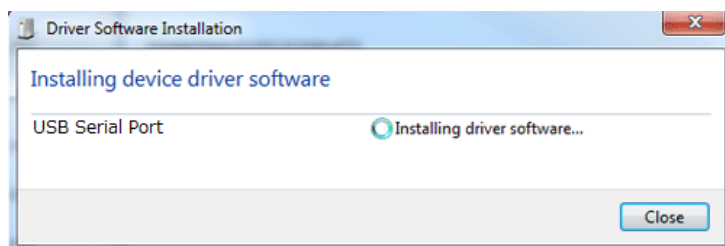
COM# display

↓

Run the Application

2.1 Automatic Installation

① Start the PC if not already running.
② Verify that the Internet connection is working.
③ Close any running application.
④ Connect HVC-P to the PC with the USB cable.
⑤ The installation will start shortly.
⑥ The windows below will be usually displayed during the installation, but not always. In such a case, proceed to Section 2.2 after a few moments.
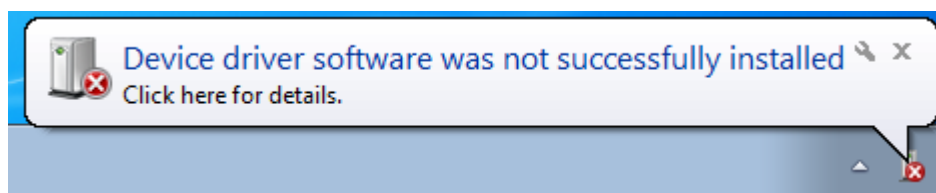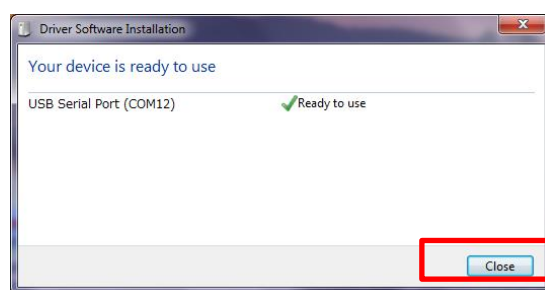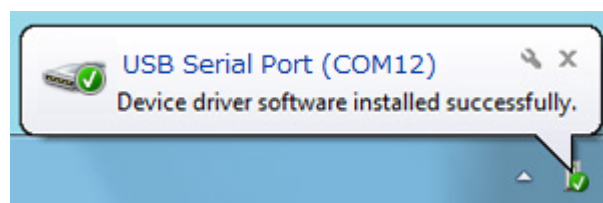
Installing device driver software
Click here for status.
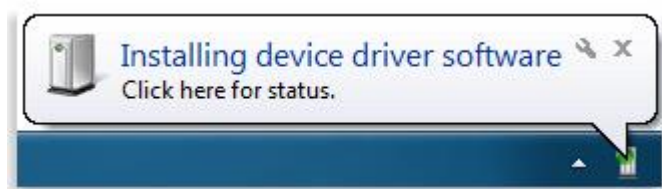
The status is displayed as below.

The installation may take a few minutes. Please do not click on "Close" until the installation is complete.

Driver Software Installation

Installing device driver software

USB Serial Port   ○ Installing driver software...

                                         Close   ✕ Do not click to close

⑦ The windows above will change to the ones below when the installation is complete, but sometimes nothing will be displayed. Regardless, proceed to Section 2.2 after a few moments.
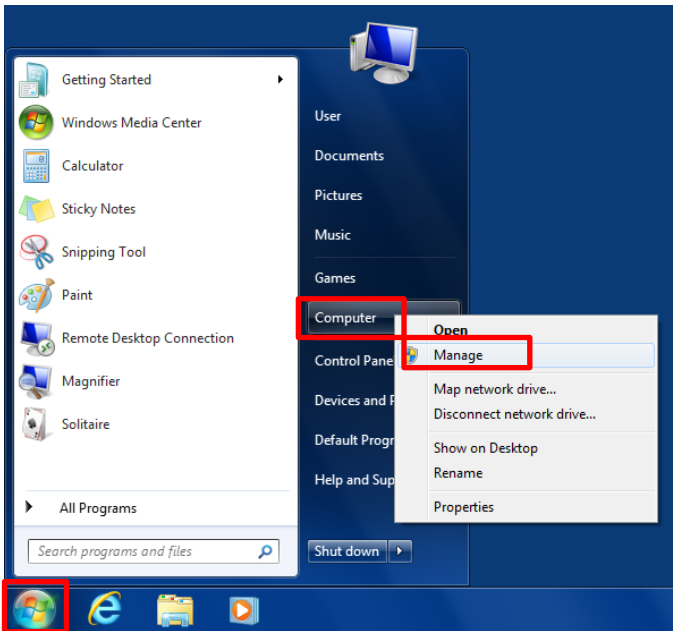
USB Serial Port (COM12)
Device driver software installed successfully.

Driver Software Installation

Your device is ready to use

USB Serial Port (COM12)   ✓ Ready to use

                                         Close

Device driver software was not successfully installed
Click here for details.

2.2 Verify Installation

Verify the COM port number in the device manager.

① Start the PC if not already running.
② Verify that the Internet connection is working.
③ Close any running application.
④ Connect HVC-P to the PC with the USB cable.
⑤ Open Device Manager on the PC.
　 From "Start" go to "Computer", right-click it and select "Manage".

⑥ Click on Device Manager
⑦ Proceed to Section 3.1 if "USB Serial Port(COM#)" is displayed under "Ports (COM & LPT)".
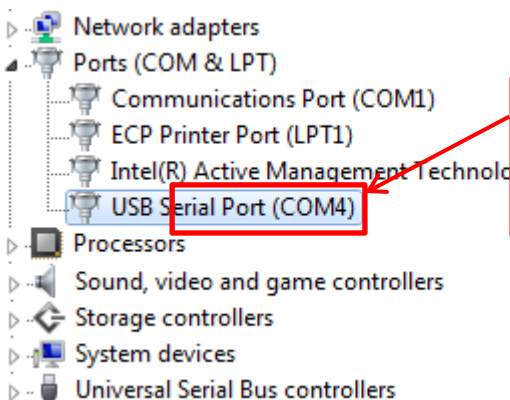
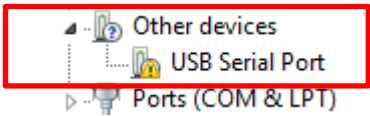

Verify the COM number of the port. The COM number is COM4 in the example to the left. Write it down for later.

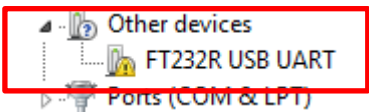⑧ Proceed to Section 2.3 if it is listed under "Other devices".

2.3 Reinstallation

Reinstall the drivers if the COM number was not displayed.
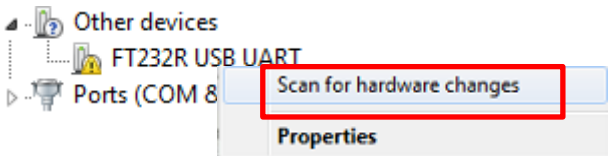Follow instructions ① to ⑥ as in Section 2.2.
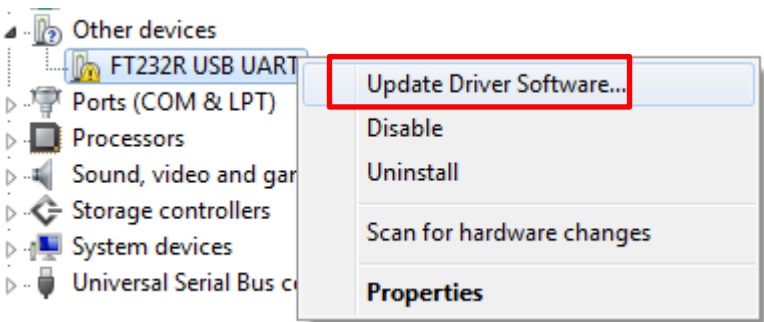⑦Proceed to ⑪ if "USB Serial Port" is displayed under "Other devices".

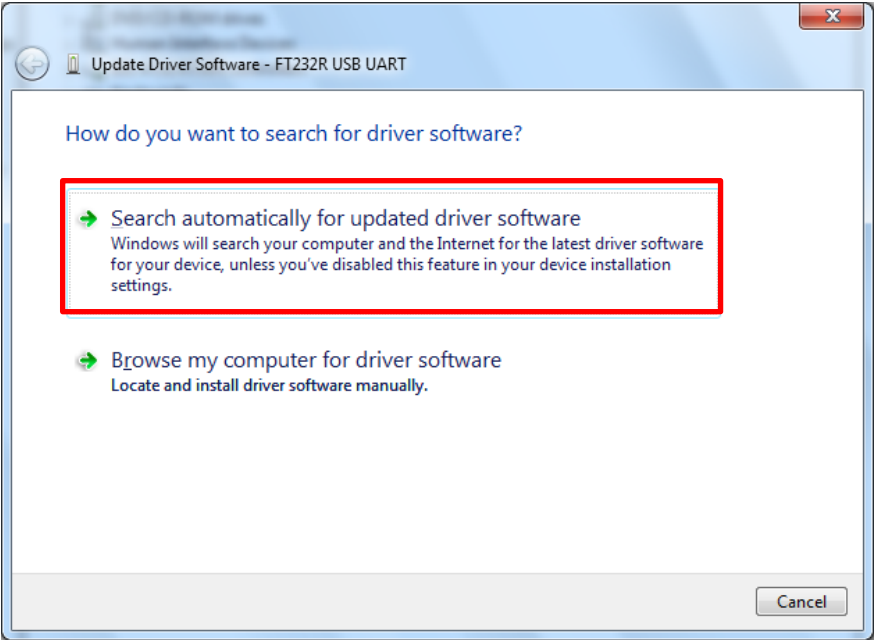Proceed to ⑧ if "FT232R USB UART" is displayed.

⑧ When "FT232R USB UART" is displayed, right click on it.
   If "Scan for hardware changes" is displayed, verify the Internet connection and return to ③ in Section 2.1.

If "Update Driver Software" is displayed, select it and proceed to ⑨.
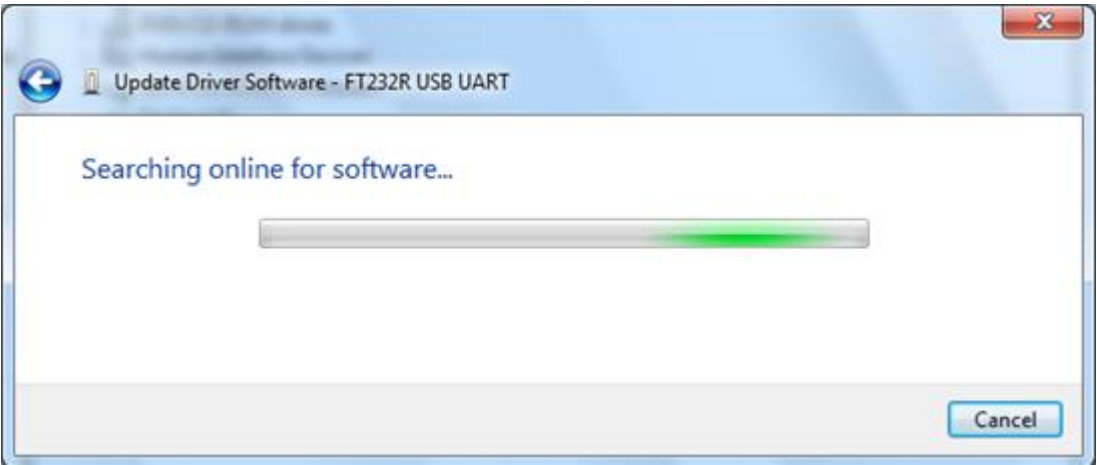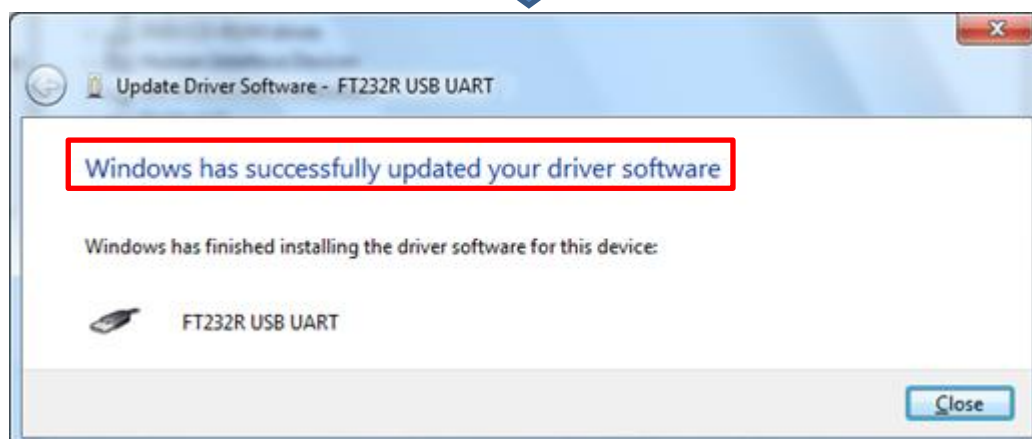
⑨ Driver Software Update

 Click on "Search automatically…"

⑩ The update driver software windows will be as displayed below
  when searching for the drivers.
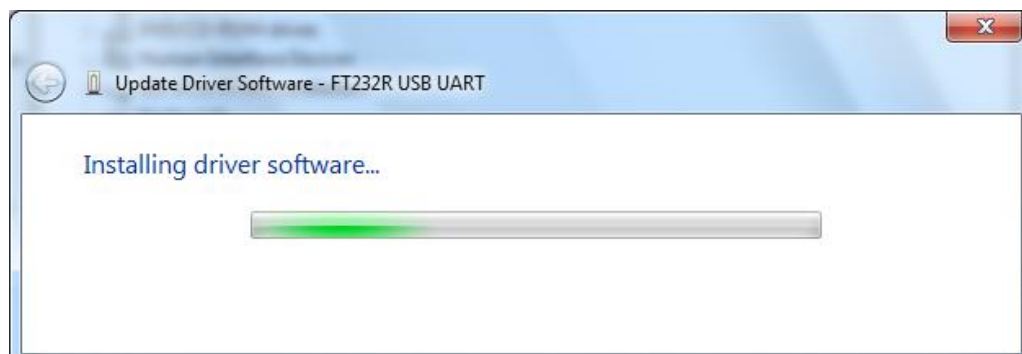
If "Windows has successfully…" is displayed, disconnect the USB cable and restart from Section 2.3 to verify the USB Serial Port display.
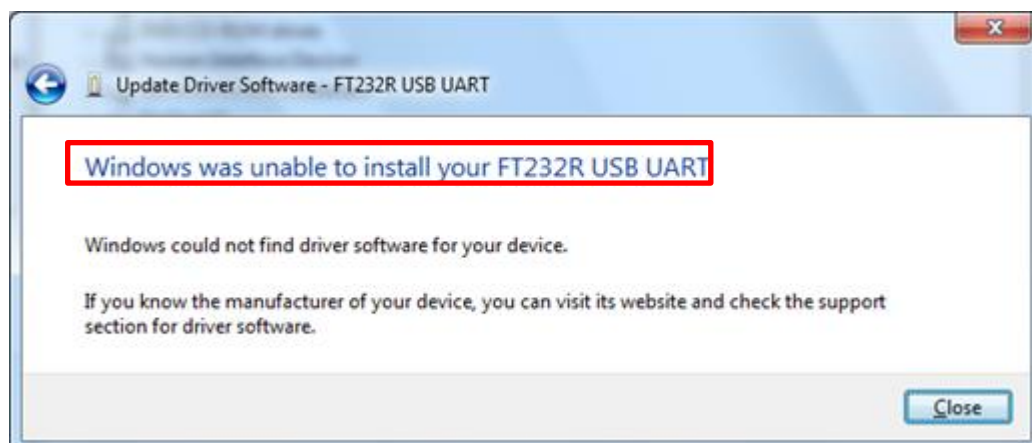
Proceed to Section 2.4 if the device driver was not successfully installed.

⑪ USB Serial Port Display
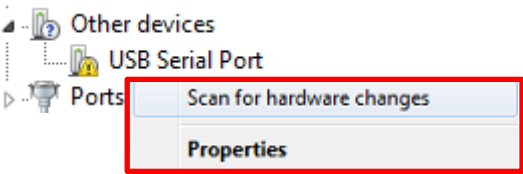
If the menu to the left is displayed, verify that the PC is connected to the Internet and restart from ③.
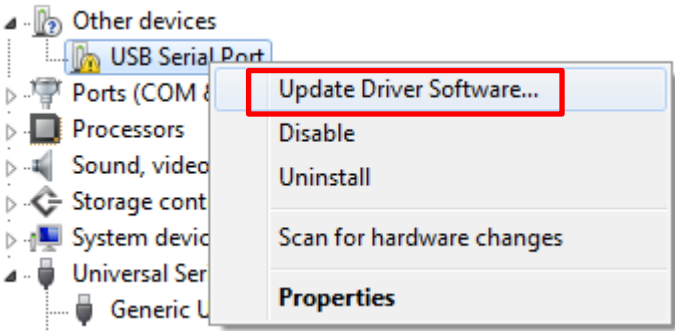
Click on "Update Driver Software"

⑫ Update Driver Software
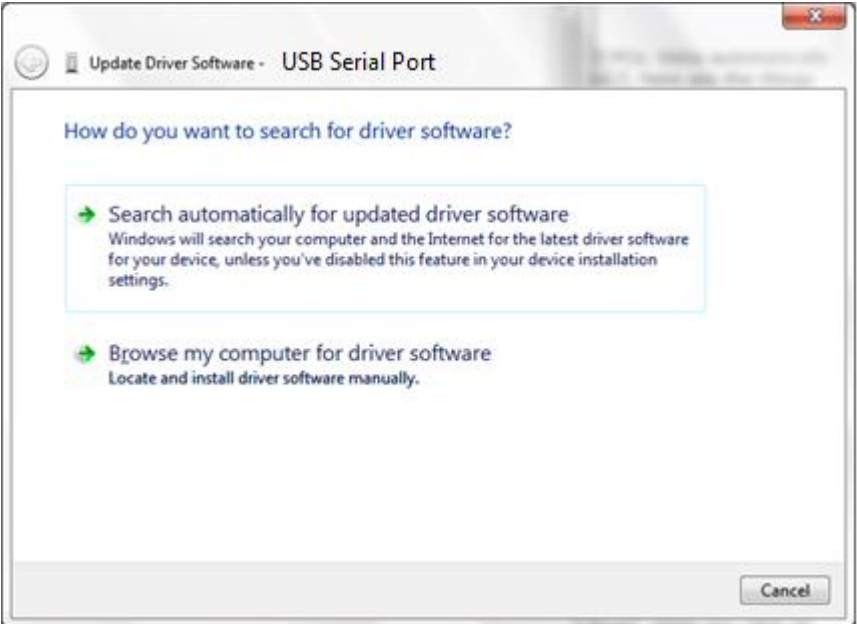
Click on "Search automatically …".

⑬The "Update driver software" windows will be as displayed below.
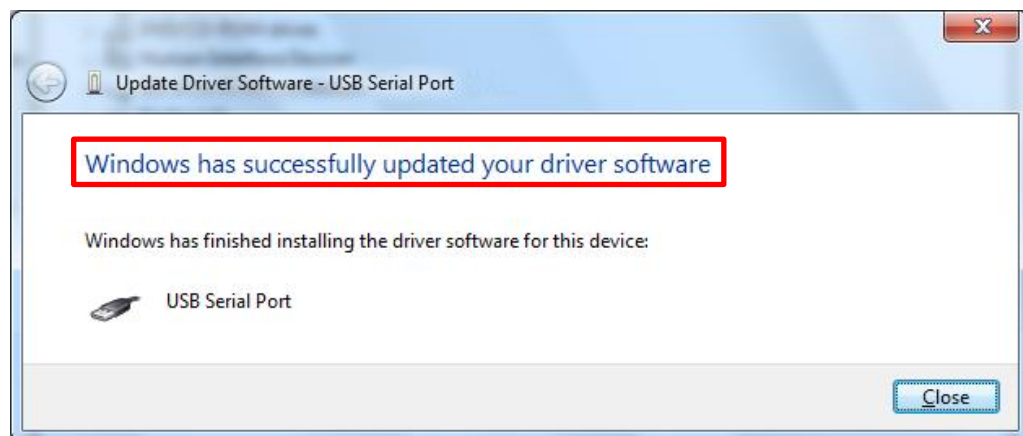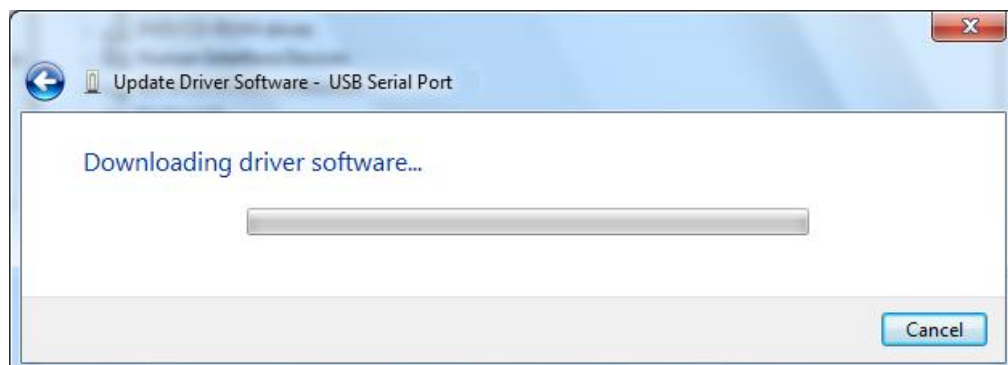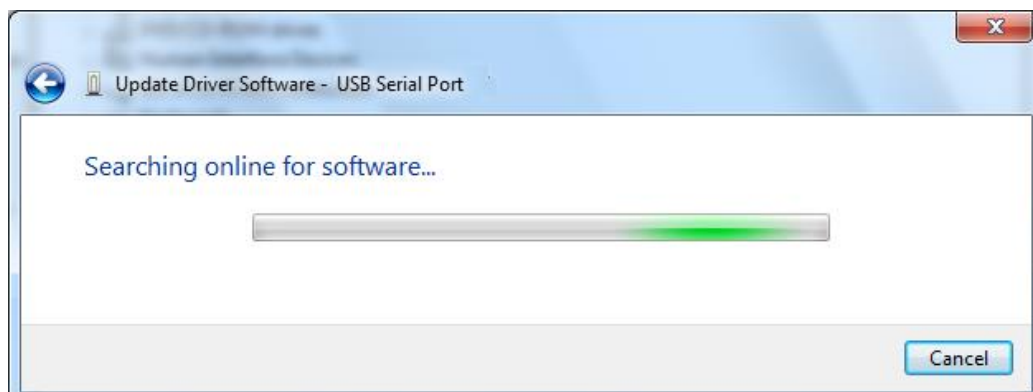
If "Windows has successfully…" is displayed, proceed to ⑭.
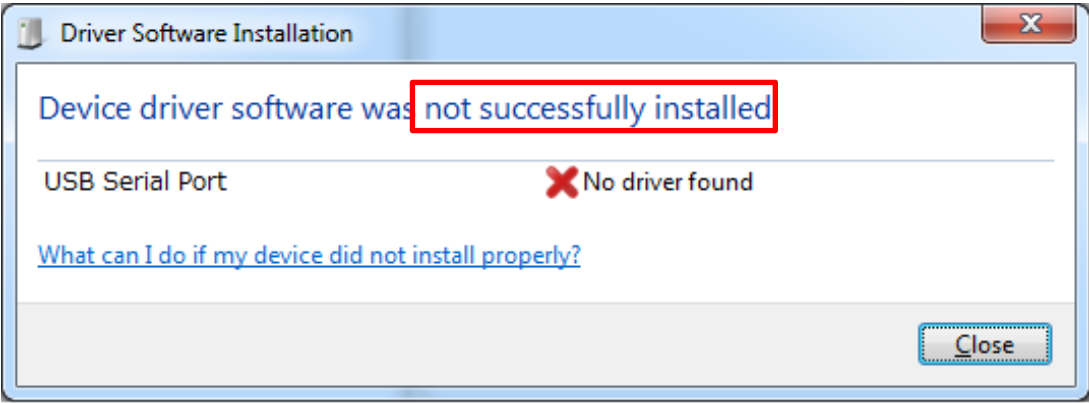
Proceed to Section 2.4 if the device driver was not successfully installed.

⑭ Verify the COM number in "Ports (COM & LPT)" in the Device Manager.
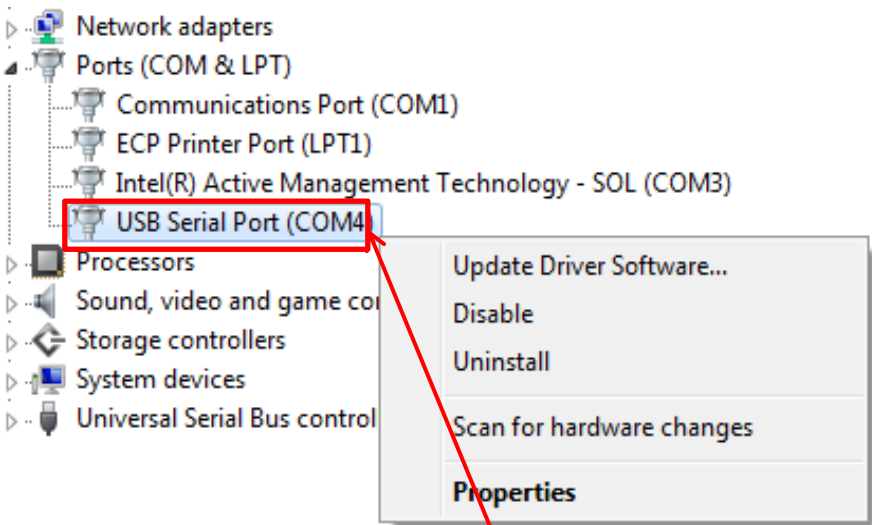
Verify the COM number of the port. The COM number is COM4 in the example above. Write it down for later.

⑮ Proceed to **3 Run Application**.

2.4 Manual Installation

① Confirm the Operating System type.
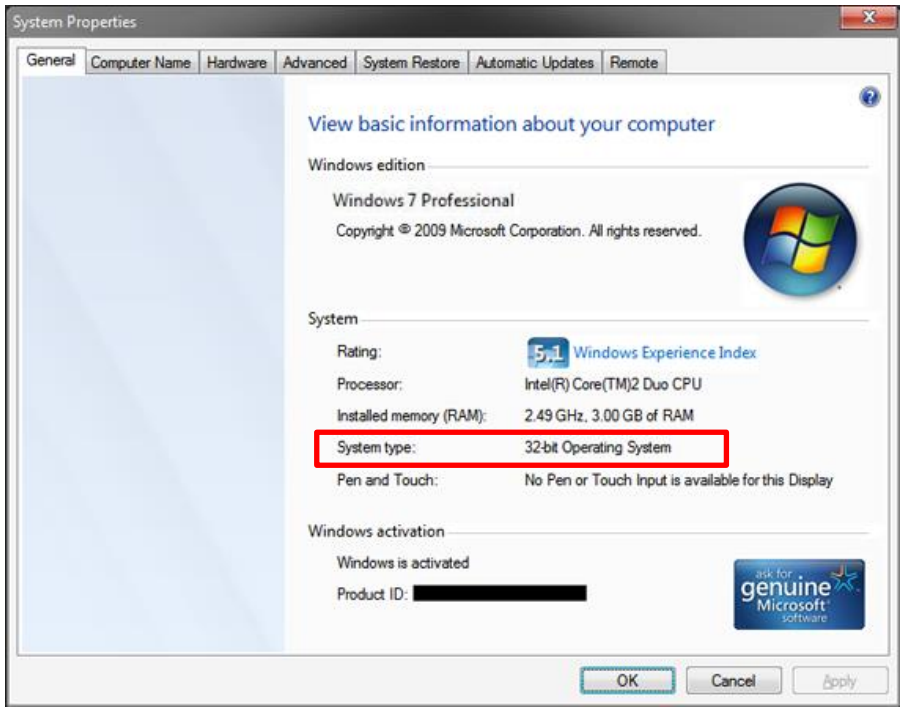
Confirm the System type (32-bit/64-bit) and download the appropriate drivers.

② Download the drivers.

The VCP drivers can be downloaded from the FTDI website.

http://www.ftdichip.com/Drivers/VCP.htm

③ Download the files.
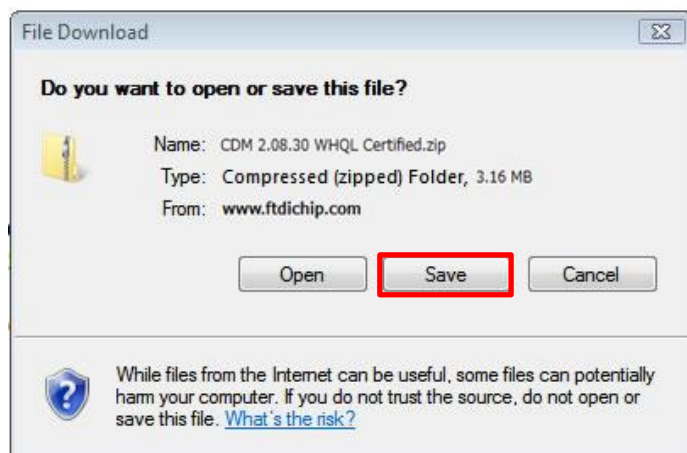
Click on "Save"

Example: Save in Downloads
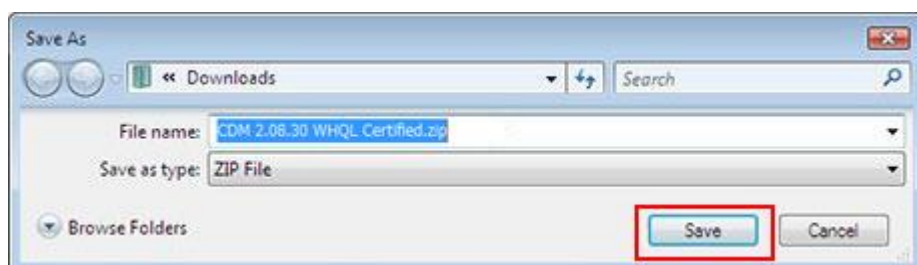
④ Unzip the files
    Unzip the downloaded file as necessary.

⑤ Connect HVC-P to the PC with the USB cable.
⑥ The installation will start shortly.
⑦ The windows below will be displayed during the installation.

Installing device driver software
Click here for status.

Driver Software Installation

Device driver software was not successfully installed

USB Serial Port   ❌ No driver found

What can I do if my device did not install properly?

Close
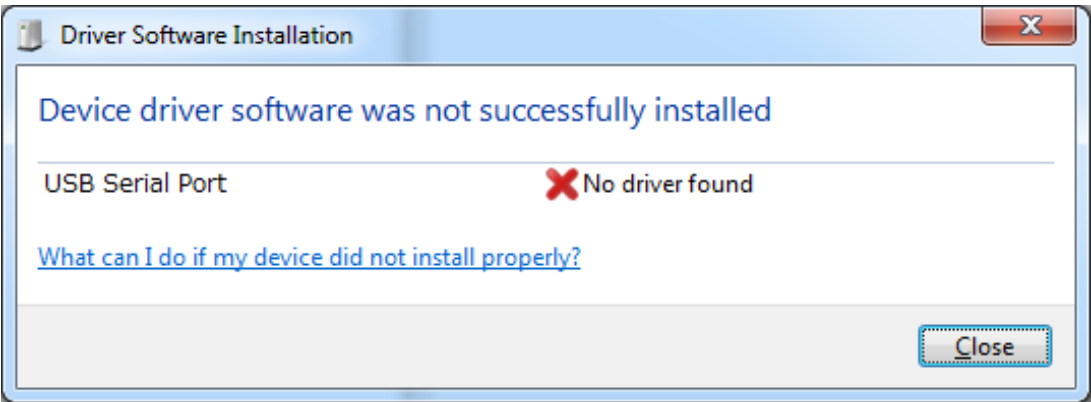
⑧ Open the Device Manager.
    From "Start" go to "Computer" and right-click on "Manage".

Getting Started

Windows Media Center   User

Calculator   Documents

Sticky Notes   Pictures

Snipping Tool   Music

Paint   Games

Remote Desktop Connection   Computer   Open

Magnifier   Control Pane   Manage

                            Devices and P   Map network drive...
Solitaire   Disconnect network drive...

                            Default Progr   Show on Desktop
                                            Rename
                            Help and Sup
▶ All Programs   Properties

Search programs and files 🔍   Shut down ▶

⑨ Click on "Device Manager", then "Other devices".

System Tools
  ▷ Task Scheduler
  ▷ Event Viewer
  ▷ Shared Folders
  ▷ Local Users and Groups
  ▷ Performance
    Device Manager
Storage
    Disk Management
  ▷ Services and Applications

  ▷ Computer
  ▷ Disk drives
  ▷ Display adapters
  ▷ DVD/CD-ROM drives
  ▷ Human Interface Devices
  ▷ IDE ATA/ATAPI controllers
  ▷ Keyboards
  ▷ Mice and other pointing devices
  ▷ Monitors
  ▷ Network adapters
  ▲ Other devices
      USB Serial Port
  ▷ Ports (COM & LPT)

⑩ Right-click on "USB Serial Port".

  ▷ Network adapters
  ▲ Other devices
      USB Serial Port
  ▷ Ports (COM &
  ▷ Processors
  ▷ Sound, video
  ▷ Storage cont
  ▷ System devic
  ▲ Universal Ser
      Generic U

Update Driver Software...
Disable
Uninstall

Scan for hardware changes

Properties

Click on "Update Driver Software".

⑪ Update the driver software.

Update Driver Software USB Serial Port

How do you want to search for driver software?

→ Search automatically for updated driver software
   Windows will search your computer and the Internet for the latest driver software
   for your device, unless you've disabled this feature in your device installation
   settings.

→ Browse my computer for driver software
   Locate and install driver software manually.

Click on "Browse my computer..."

Cancel

15

⑫ Click on "Browse" and select the folder unzipped earlier.

⑬ Click on "Next".

16
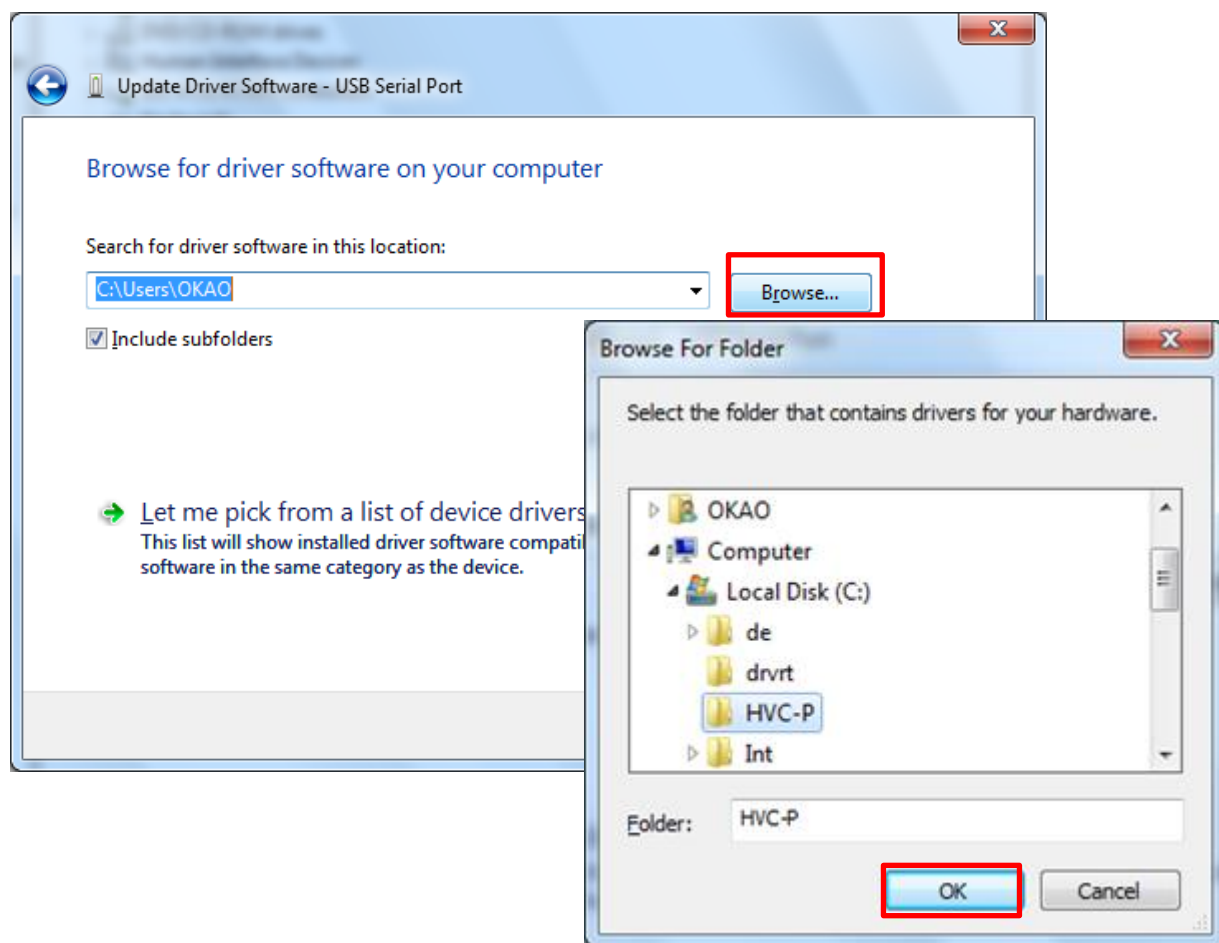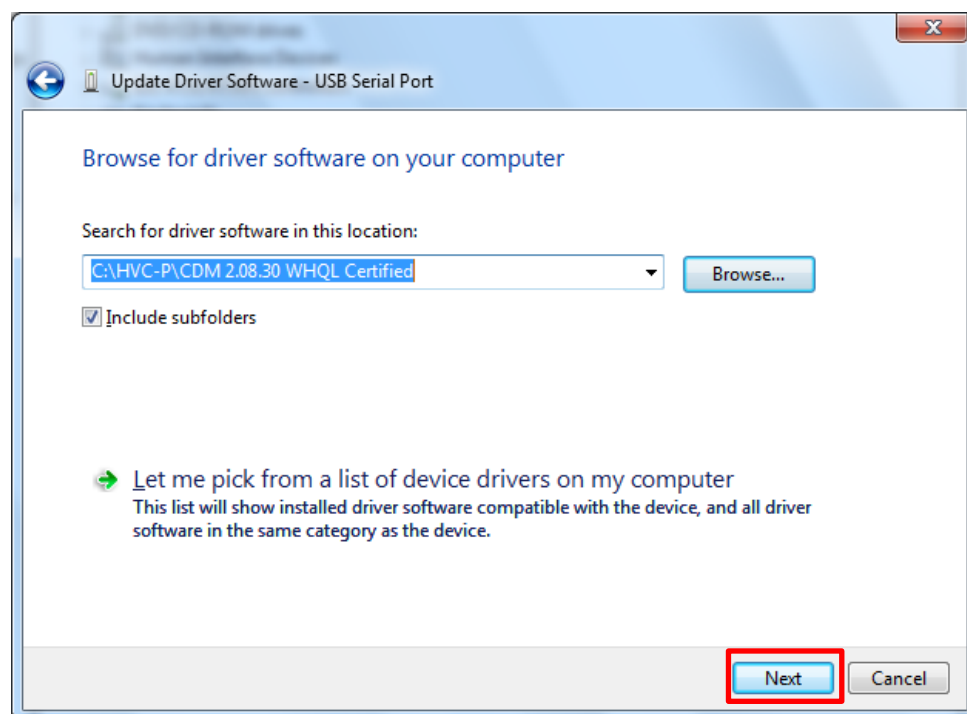
⑭ Close the window if "Windows has successfully…" is displayed.
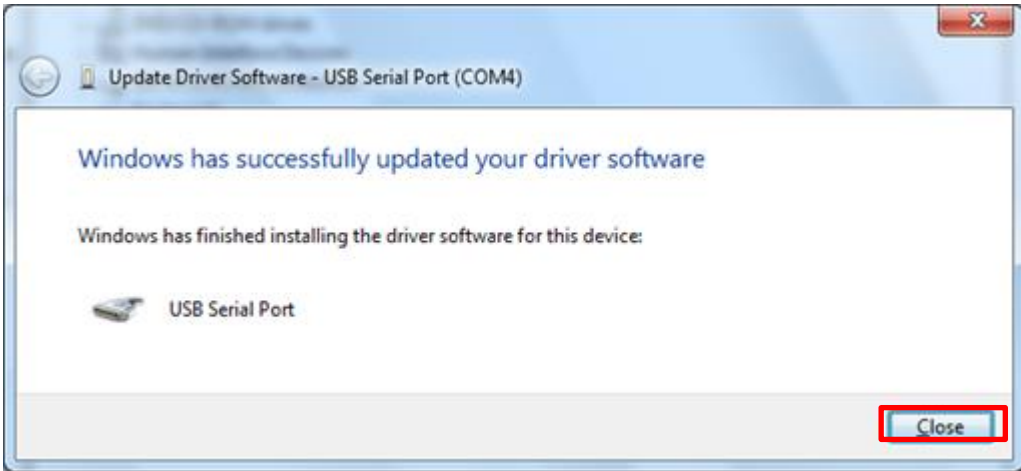
⑮ Verify the COM number in "Ports (COM & LPT)" in the Device Manager.
The installation is complete if "USB Serial Port (COM#)" is displayed.
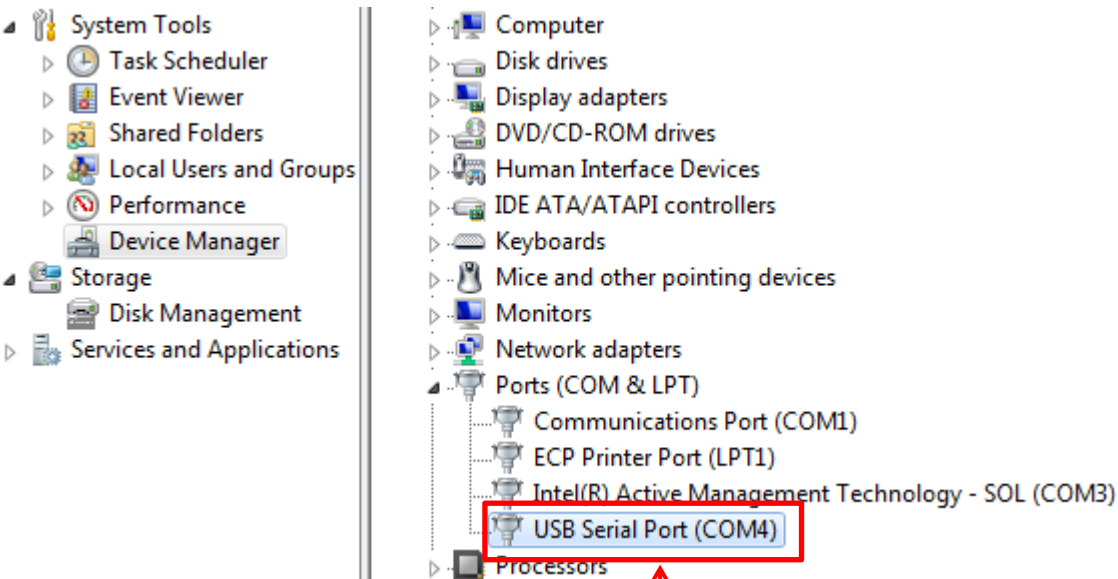
Verify the COM number of the port. The COM number is COM4 in the example above. Write it down for later.

Proceed to **3 Run Application**.

⑯ If the above is not displayed, proceed to Section 4.5.

3 Run Application

<div style="border: 2px solid red;">

Please make sure to also refer to HVC-P Evaluation Software Manual before using the Application

</div>

## 3.1 Set Device Baud Rate

This is for the transmission rate for the UART signal of HVC-P.
The possible values are 9600, 38400, 115200, 230400, 460800, 921600 (921600 is the default value).
Make sure that the Baud rate set in the Application matches the value manually set on HVC-P.
Setting the Baud rate on HVC-P must be done manually through the DIP switch (identified as SW-2 on the image below) on the back of HVC-P.
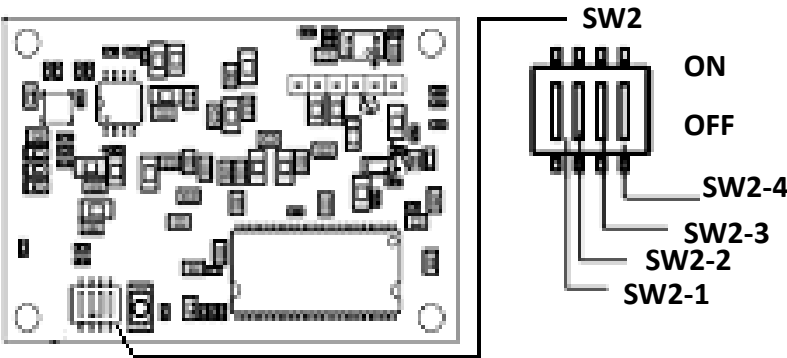
Make sure to leave SW2-1 to ON at all times.
The possible settings for SW2-2, SW2-3 and SW2-4 are displayed below.

Please refer to HVC-P-S Instruction Sheet for details.

3.2 Set Application Baud Rate

Click on the "HVC-PDemoE.exe" file   HVC-PDemoE.exe
to start the Application.
The window displayed below will open the first time the
Application is run.
Select the Port number written down from in Section 2.2.
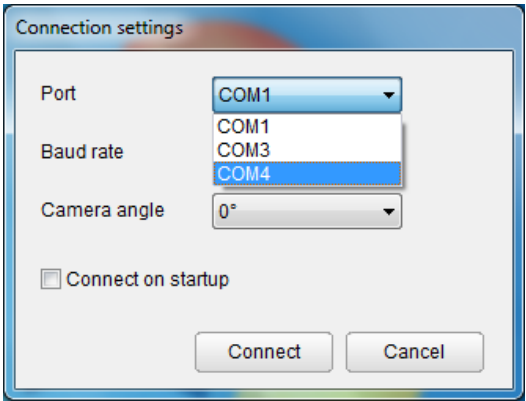
③ Select the Baud rate.
Make sure to select the Baud rate matching the value manually
set for HVC-P.
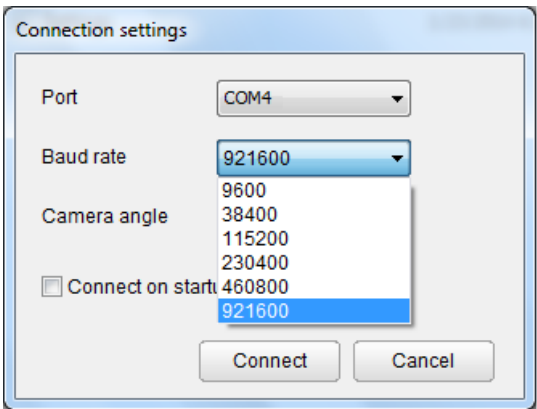
④ Click on "Connect" to start the Application.
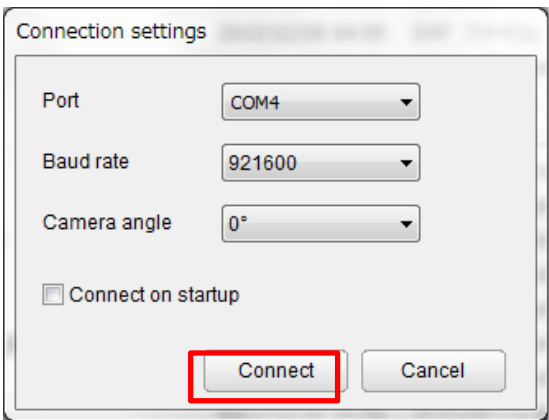
4 Troubleshooting

HVC-P won't power-up.
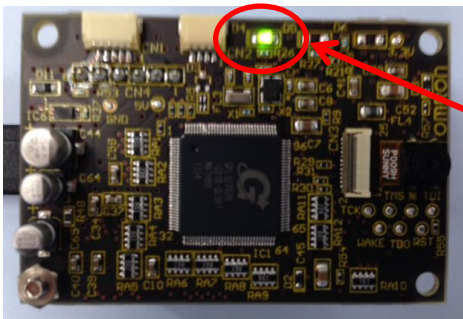
Location of the LED

Suspected cause	The cable or connector is not working properly.
Items to verify	

① Verify the USB cable connection to the PC.
② Verify the USB cable connection to HVC-P.

Error Message:
Device driver software was not successfully installed

Device driver software was not successfully installed ✎ ✕
Click here for details.
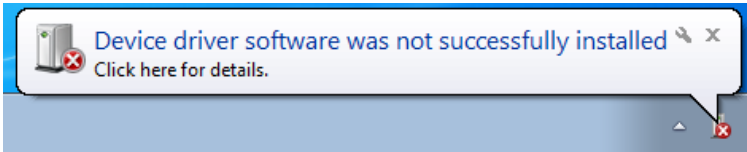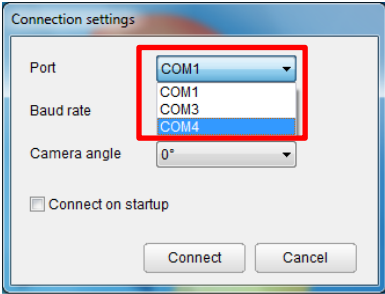
Suspected cause	The driver installation failed.
Items to verify	

① Reinstall the drivers as described in Section 2-3.
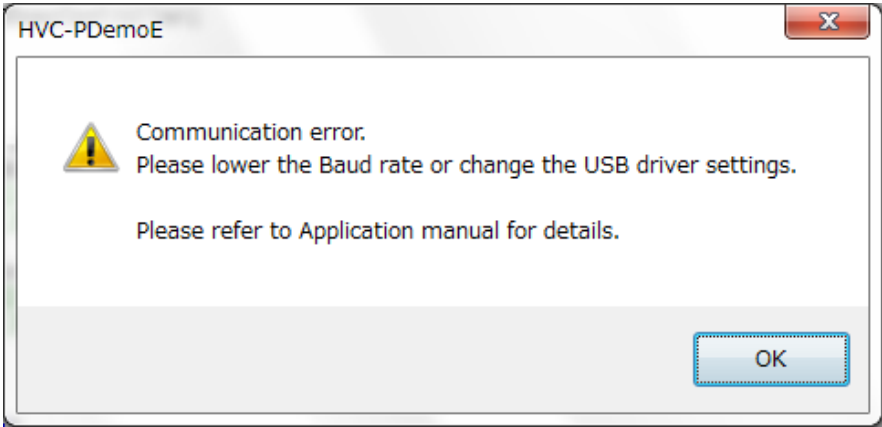
"Other devices" is displayed in the Device Manager
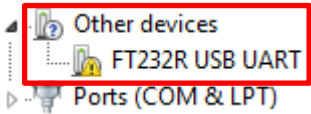
Suspected cause	The driver installation is not complete.
Items to verify	

① Reinstall the drivers as described in Section 2-3.

The Port (COM#) is unknown.	
Items to verify	
① Identify the Port (COM#) from the Device Manager. Please refer to Section 2.2 for details.	

Error message: Device is not responding. Please verify connection.	
Suspected cause	① The cable is not properly connected. ② The transmission setting is incorrect. ③ The USB driver install was not completed. ④ The port setting (COM#) is incorrect. ⑤ The drivers are updated.
Items to verify	

① Verify the cable and the connector.
② Verify the Baud rate setting on HVC-P (refer to Section 3.1) and in the Application (refer to Section 3.2).
　Verify the Port (COM#) setting in the Device Manager (refer to Section 2.2).
③ Verify that the driver installation is complete. Refer to Section 4.1 to see the windows displayed while the installation is still running.
④ Change the Port (COM#) settings (refer to Section 4.3)
⑤ Update the drivers (refer to Section 4.6).

> **Error message:**
> **Communication error.**
> **Please lower the Baud rate or change the USB driver settings.**
>
> HVC-PDemoE ✕
>
> ⚠ Communication error.
> Please lower the Baud rate or change the USB driver settings.
>
> Please refer to Application manual for details.
>
> OK

Suspected cause	The PC used is not powerful enough.
Items to verify	

① Lower the Baud rate setting.
  Change the setting on HVC-P (refer to Section 3.1) and in
  the Application (refer to Section 3.2).
② Change the USB driver settings (refer to Section 4.2).

Please contact the HVC Customer Service should any issue
continue to occur.
Contact information is given in HVC-P Instruction Sheet.

4.1 Display during Installation

The windows below will be displayed during the installation of the USB drivers.

The status is displayed as below.
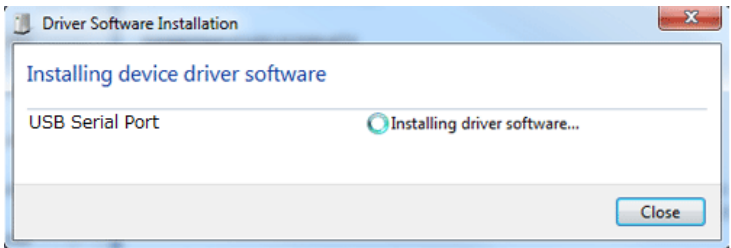
Clicking on the "Show hidden icons" button on the taskbar will display the following windows. The status of the driver installation can be verified from here.

Click on the USB driver icon.
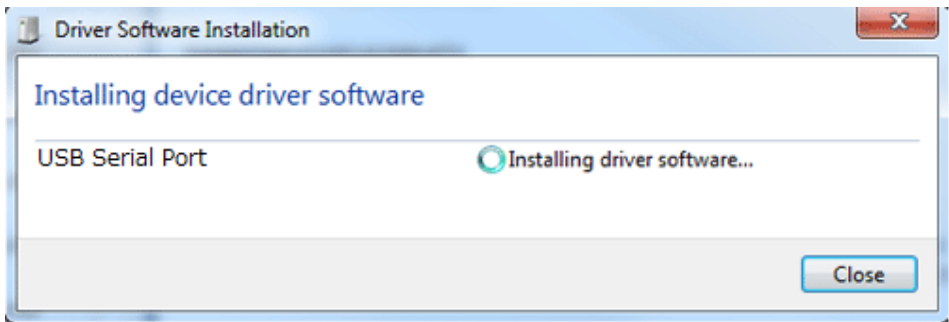
4.2 Change USB Driver Settings
Right click on the "USB Serial Port(COM#)" displayed under "Ports (COM & LPT) in the Device Manager and select "Properties".
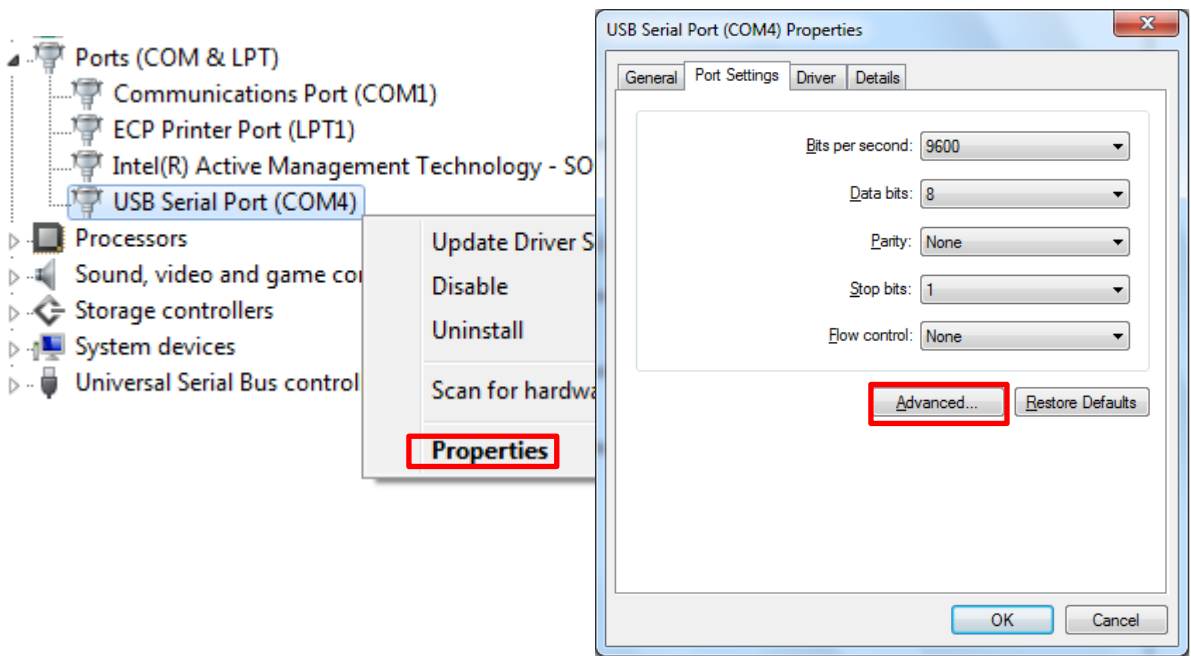
Click on "Advanced" in the "Port Settings" tab.
The transmission performance will improve if the "Latency Timer (msec)" in "BM Options" is set lower than 16.
However, setting the value too low will increase the rate of interruption of the USB and increase the load on the system. Please make sure to set a balanced value.
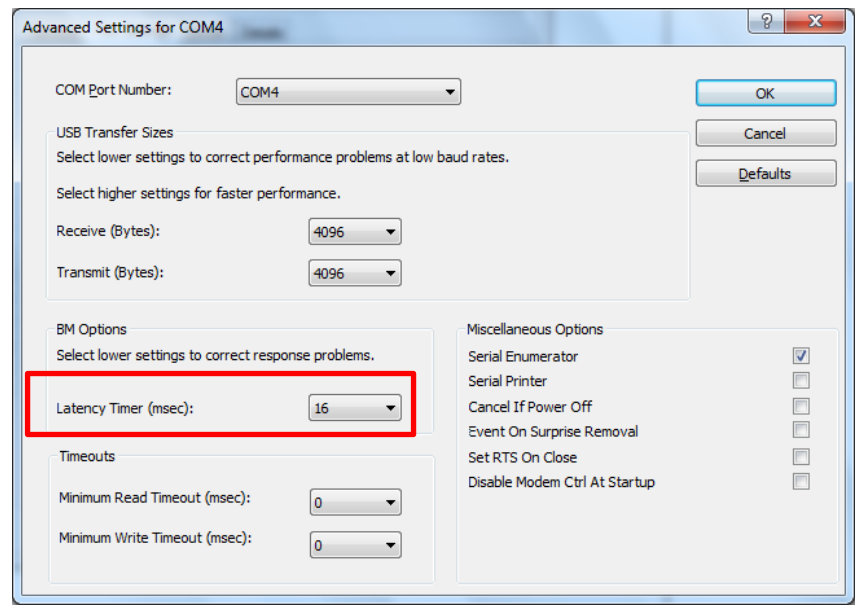
4.3 Change COM Port Settings

The Port COM# identified in Section 2 is sometimes not displayed in the Port setting of the Application.

In the example below, the device manager displays COM3 but it is not displayed in the Port setting of the Application.
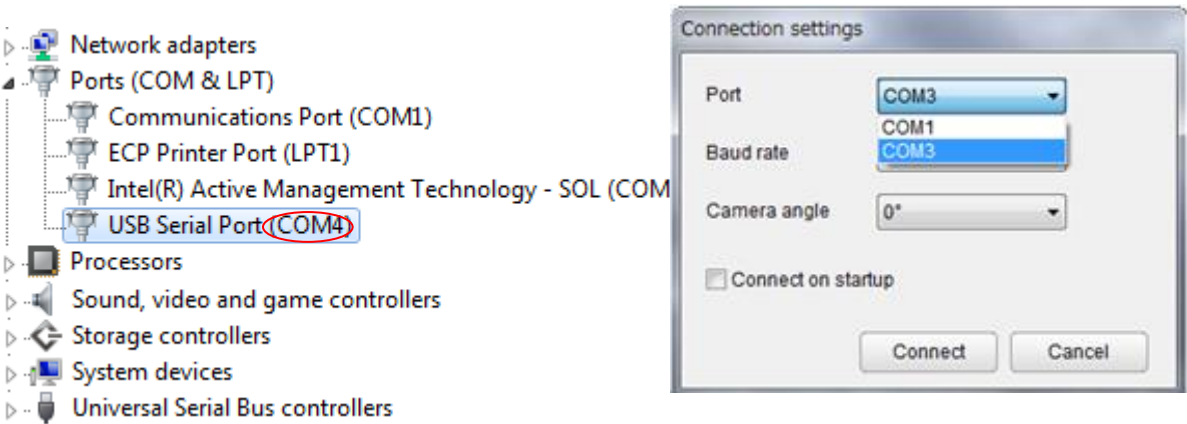
COM4 is not displayed.

Refer to ⑤ to ⑦ of Section 2.2 on how to access the Device Manager.
Right click on the "USB Serial Port (COM#)" displayed under "Ports (COM & LPT).
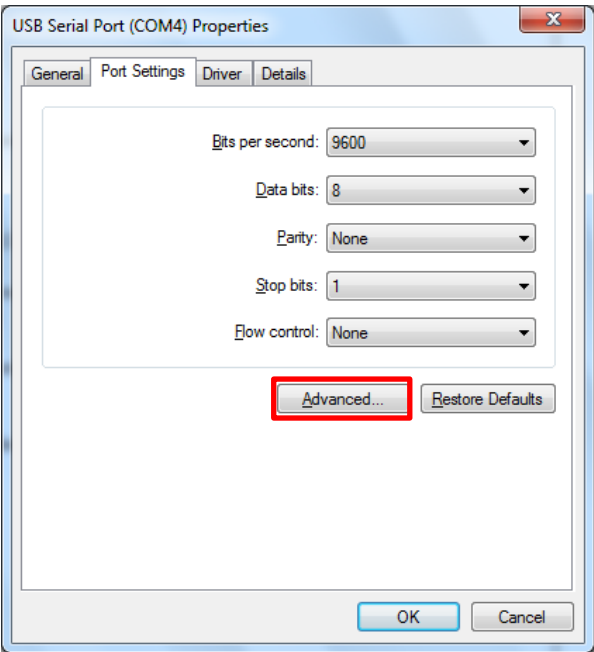
Open "Advanced" in the "USB Serial Port (COM#) Properties" window.
Click on "COM Port Number" and select an available COM#, i.e. one that is not "(in use)".
Select a different COM# if the same error message appears.
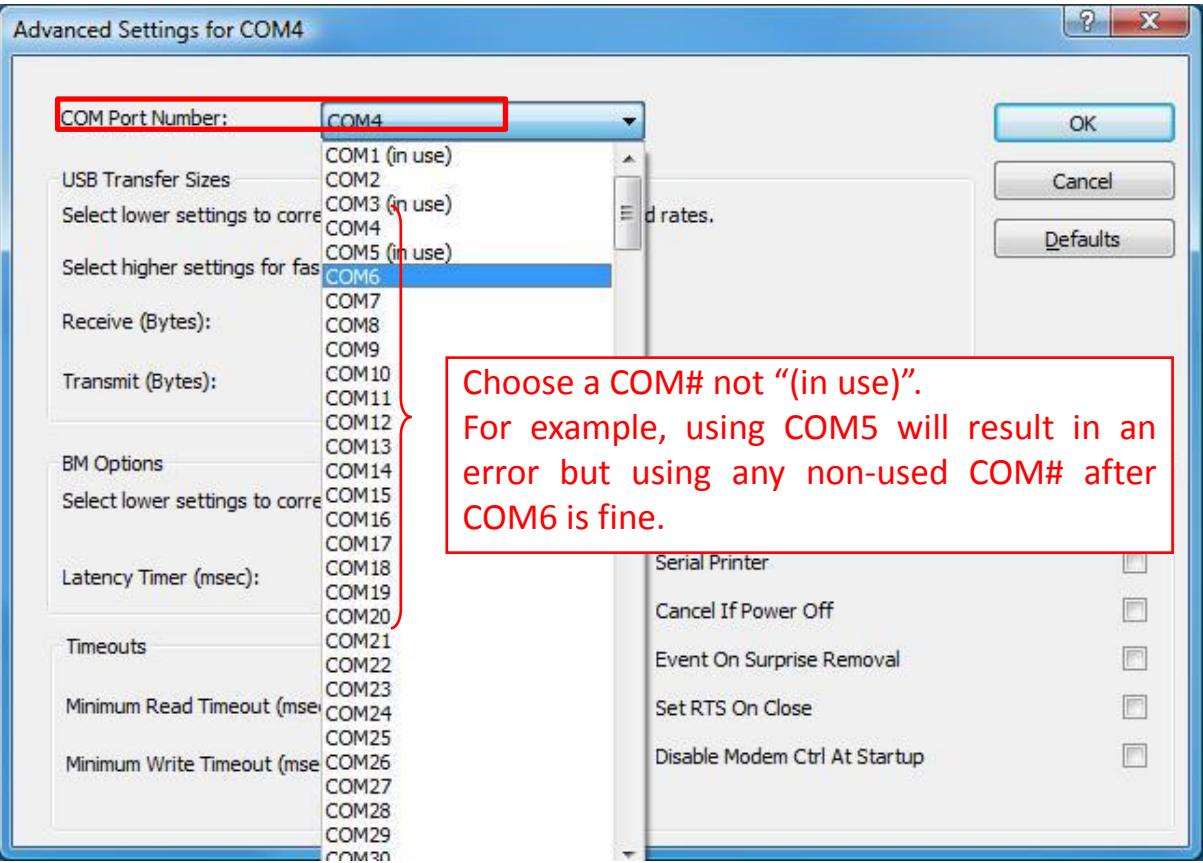
Click "OK" to close the window.

4.4 Caution while Using the Application
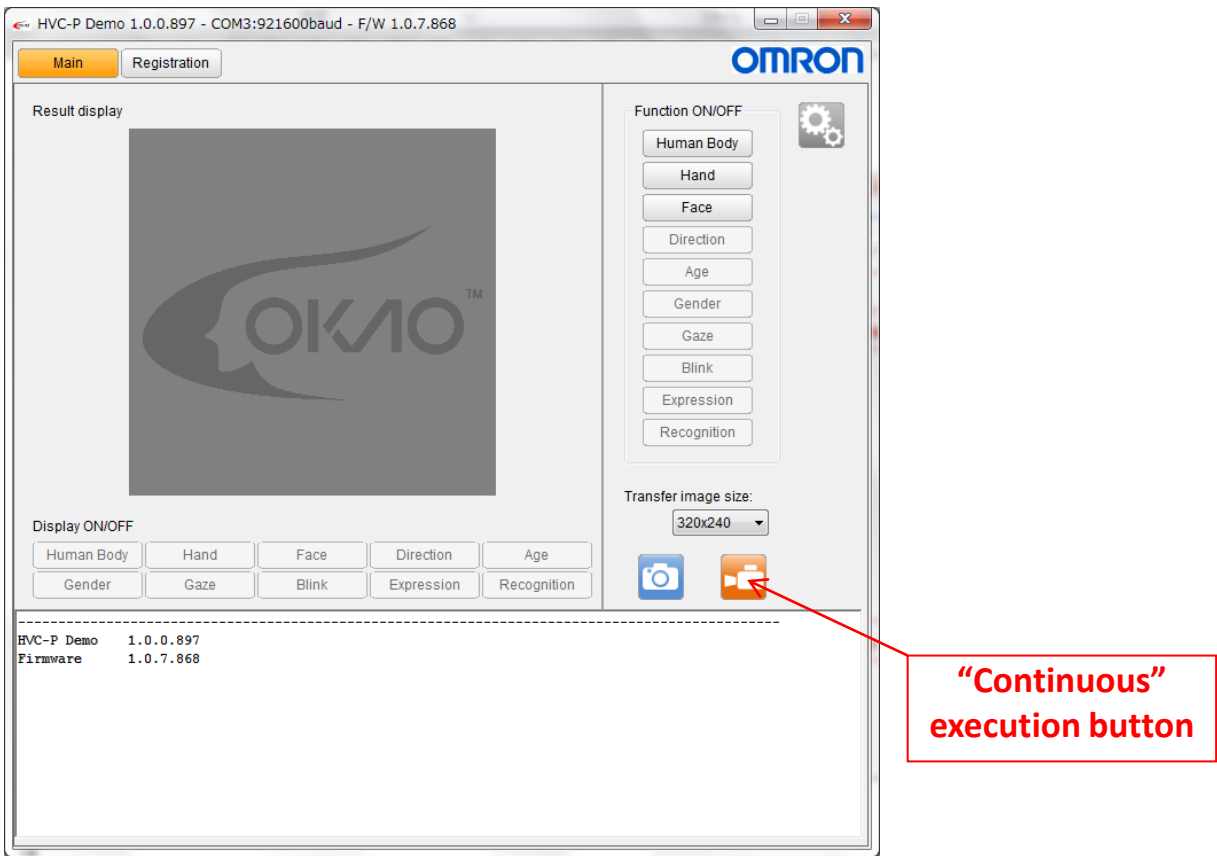
 Display when process not running

 Display when process is running

Changing the transfer image size or clicking on the "x" to close the Application while a detection process is running (the "Continuous" button has been clicked once) will display a "Please wait." message and the Application may sometimes freeze.

Please make sure to click on the "Continuous" button a second time to stop the running process before changing the transfer image size or closing the Application.

4.5 Delete Driver

If the drivers still cannot be successfully installed after following Section 2.3 and 2.4, delete them once before trying again.
Proceed from ① to ④ of Section 2.1.

⑤ Open the Device Manager.
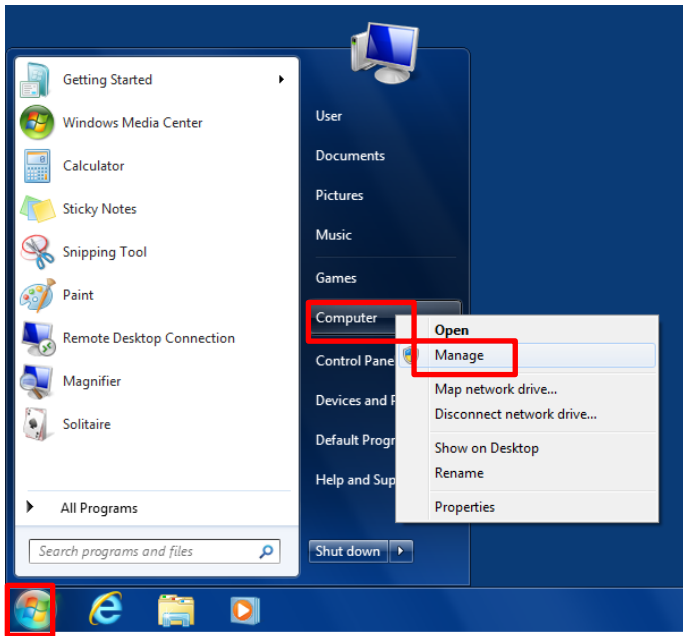
⑥ Click on "Device Manager".
The image below displays the Device Manager when the USB serial port is listed under "Other devices".

⑦ Select "USB Serial Port" and right-click.

▷ 🖳 Network adapters
▲ 🔧 Other devices
  └── 🔊 USB Serial Port
▷ 🖨 Ports (COM & | Update Driver Software...
▷ 🖳 Processors | Disable
▷ 🔊 Sound, video | **Uninstall**   Click on "Uninstall"
▷ 🔌 Storage cont | Scan for hardware changes
▷ 🖳 System devic
▲ 🔌 Universal Ser | **Properties**
  └── 🔌 Generic U

⑧ Click "OK".

Confirm Device Uninstall

USB Serial Port

Warning: You are about to uninstall this device from your system.

[OK]   [Cancel]
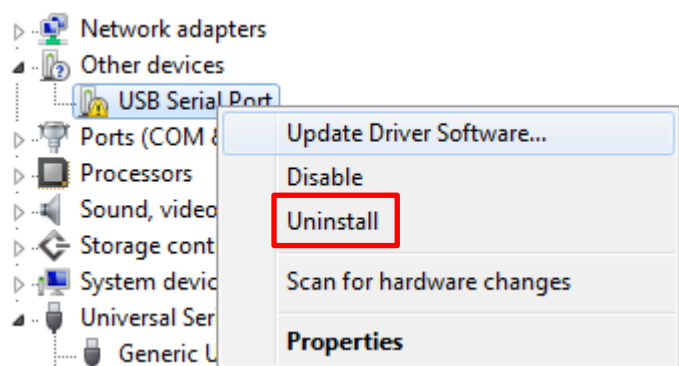
⑨ Verify that the USB serial ports was deleted from the Device Manager.

▲ 🔧 System Tools   ▷ 🖳 Computer
  ▷ 🕐 Task Scheduler   ▷ 🖴 Disk drives
  ▷ 📋 Event Viewer   ▷ 🖳 Display adapters
  ▷ 📁 Shared Folders   ▷ 💿 DVD/CD-ROM drives
  ▷ 👥 Local Users and Groups   ▷ 🖳 Human Interface Devices
  ▷ 🕐 Performance   ▷ 🖴 IDE ATA/ATAPI controllers
    🖨 Device Manager   ▷ ⌨ Keyboards
▲ 🖥 Storage   ▷ 🖱 Mice and other pointing devices
    🖥 Disk Management   ▷ 🖳 Monitors
▷ 🖳 Services and Applications   ▷ 🖳 Network adapters
                                    ▲ 🖨 Ports (COM & LPT)
                                      └── 🖨 Communications Port (COM1)
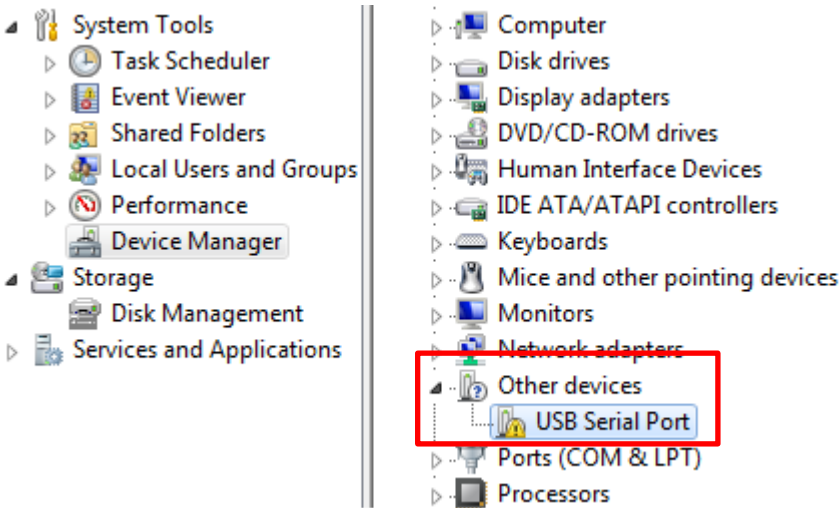   └── 🖨 ECP Printer Port (LPT1)
                                      └── 🖨 Intel(R) Active Management Technology - SOL (COM3)
                                    ▷ 🖳 Processors
                                    ▷ 🔊 Sound, video and game controllers
                                    ▷ 🔌 Storage controllers
                                    ▷ 🖳 System devices
                                    ▷ 🔌 Universal Serial Bus controllers

⑩ Disconnect the USB cable from the PC.
⑪ When reinstalling, start from Section 2.1.

4.6 Update Drivers

Drivers update may be required when the Application is not running properly.

Proceed from ① to ⑥ of Section 2.2.

⑦ Right click on "USB Serial Port (COM#) and select "Update Driver Software"

⑧ Update the drivers.

Click on "Search automatically..."

⑨ The windows below will be displayed when updating the drivers.

Update Driver Software - USB Serial Port

Searching online for software...
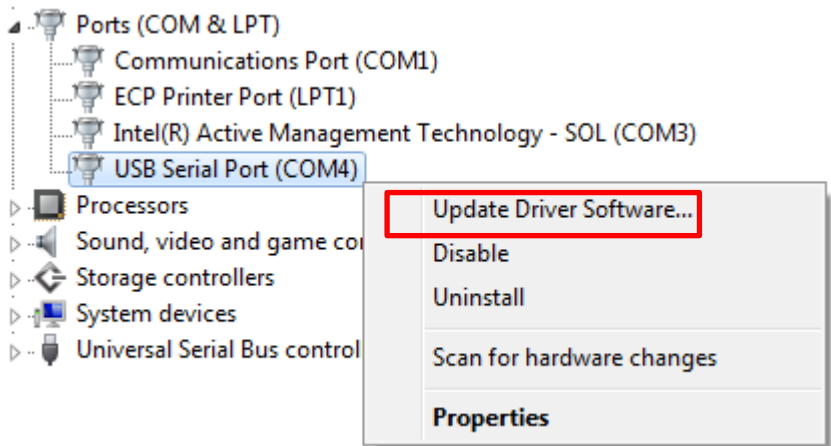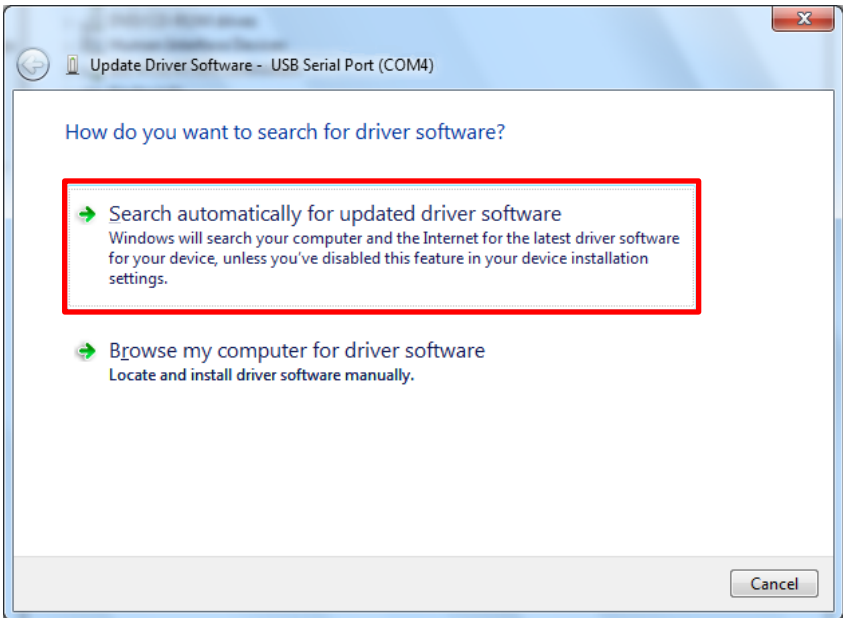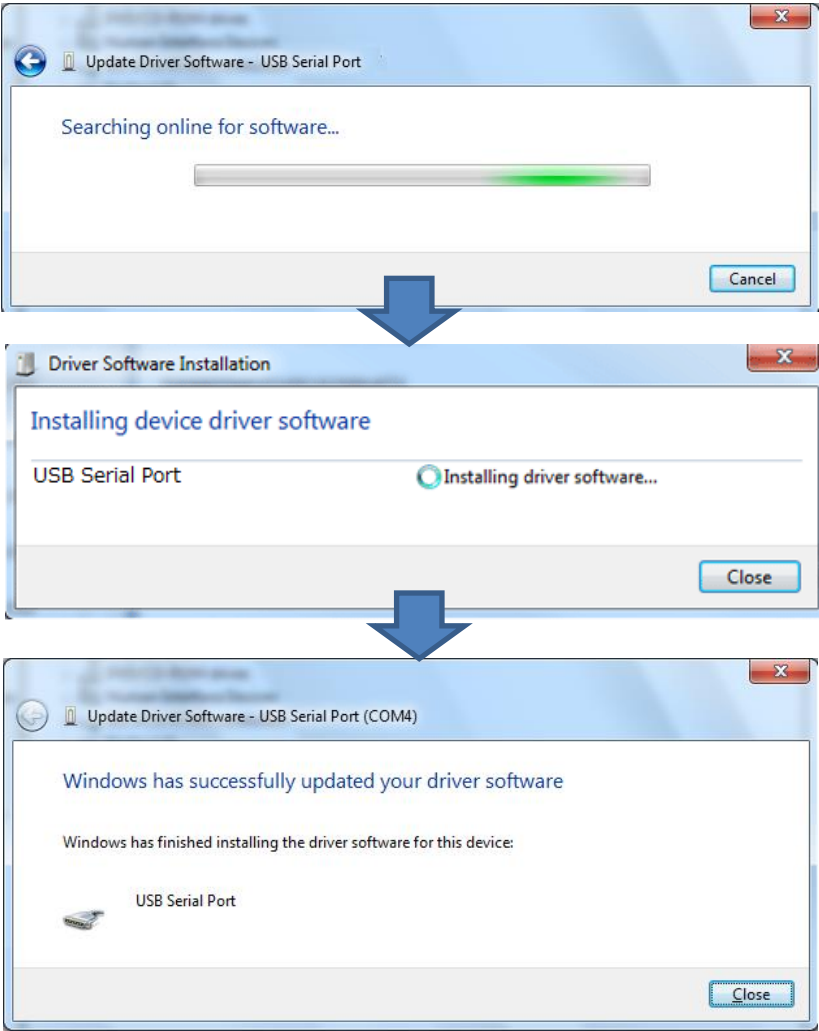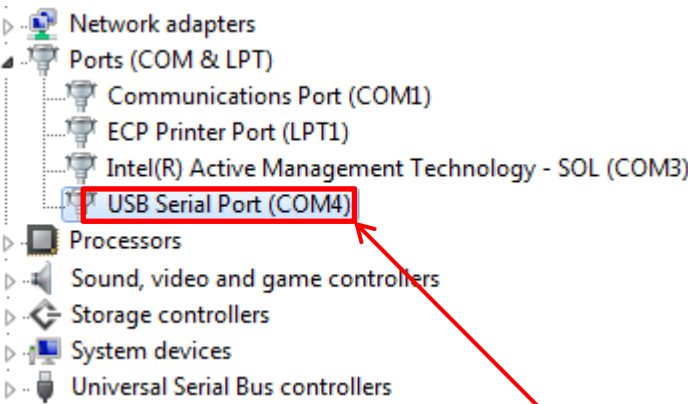
Cancel

Driver Software Installation

Installing device driver software

USB Serial Port   Installing driver software...

Close

Update Driver Software - USB Serial Port (COM4)

Windows has successfully updated your driver software

Windows has finished installing the driver software for this device:

USB Serial Port

Close

⑩ Verify the COM number in "Ports (COM & LPT)" in the Device Manager.

▷ Network adapters
▲ Ports (COM & LPT)
      Communications Port (COM1)
      ECP Printer Port (LPT1)
      Intel(R) Active Management Technology - SOL (COM3)
      USB Serial Port (COM4)
▷ Processors
▷ Sound, video and game controllers
▷ Storage controllers
▷ System devices
▷ Universal Serial Bus controllers

Verify the COM number of the port. The COM number is COM4 in the example above. Write it down for later

5 Information

HVC-P is using the FT232R drivers from FTDI.
The latest VCP (Virtual COM Port) drivers can be downloaded from
FTDI's website.

- ・FTDI website
  http://www.ftdichip.com/
- ・Latest drivers
  http://www.ftdichip.com/Drivers/VCP.htm

Installation Check Sheet

Please use the check sheet when proceeding with the installation.

Preparations

☐ PC with an Internet Connection | P2 |
   Maker/Model _____
   OS（Windows Edition）_____
   System
      Processor _____
      RAM _____
      System Type _____ bit

☐ Administrator Privileges
☐ USB 2.0 cable (A male to B male)

Driver Installation

☐ COM#   COM_____ | P3 to P17 |

This is the COM number displayed after a successful installation.

Baud Rate Setting

☐ DIP-SW setting of HVC-P
   ☐ 9600   ☐ 38400   ☐ 115200
   ☐ 230400   ☐ 460800   ☐ 921600 | P18 |

☐ Baud Rate setting of the Application
   ☐ 9600   ☐ 38400   ☐ 115200
   ☐ 230400   ☐ 460800   ☐ 921600 | P19 |